

What is claimed is:

1. A piston type compressor comprising:

5 a housing defining a suction pressure region, the housing including a cylinder block which defines a plurality of cylinder bores to form a compression chamber;

a drive shaft supported for rotation by the housing;

a cam operatively connected to the drive shaft;

10 a piston accommodated in each cylinder bore, the piston operatively connected to the cam so as to be reciprocated by converting the rotation of the drive shaft, the reciprocation of the piston varying a volume of the compression chamber;

a refrigerant gas passage interconnecting the suction pressure region with at least one of the compression chambers; and

15 a rotary valve integrally formed with the drive shaft so as to synchronously rotate with the drive shaft, the rotary valve including a suction guiding hole which forms a part of the refrigerant gas passage, the suction guiding hole connecting each compression chamber by turns with the suction pressure region as the rotary valve is rotated, the suction guiding hole
20 communicating with a plurality of the compression chambers at least at early and last stages in a suction process;

wherein the suction guiding hole has a first end formed at a preceding

side in a rotational direction of the rotary valve, the suction guiding hole also having a second end formed at a following side in the rotational direction of the rotary valve, the suction guiding hole further having a middle between the first end and the second end, the suction guiding hole further having a predetermined
5 area per unit length in the rotational direction, the predetermined area gradually increasing from the first end to the middle and gradually decreasing from the middle to the second end.

2. The piston type compressor according to claim 1, wherein the rotary
10 valve has a rotary axis for rotation, the suction guiding hole having a predetermined length in a direction of the rotary axis, the predetermined length gradually increasing from the preceding side to the middle and gradually decreasing from the middle to the following side.

15 3. The piston type compressor according to claim 1, wherein the suction guiding hole has a substantially oval shape.

4. The piston type compressor according to claim 1, wherein the suction guiding hole has a substantially rhombic shape.

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5. The piston type compressor according to claim 1, wherein the suction guiding hole communicates with two of the compression chambers at least at the

early and last stages.

6. The piston type compressor according to claim 1, wherein the suction pressure region includes an introducing chamber and a suction chamber.

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7. The piston type compressor according to claim 1, wherein a single-head piston type compressor is adopted.

8. The piston type compressor according to claim 1, wherein the cylinder
10 block is made of metallic material of aluminum series, the rotary valve being made of one of metallic material of aluminum series, metallic material of iron series and resin.

9. A piston type compressor comprising:
15 a housing defining a suction pressure region and a valve accommodating chamber, the housing including a cylinder block which defines a plurality of cylinder bores to form a compression chamber, a suction communicating passage extending from each compression chamber to the valve accommodating chamber in the cylinder block;

20 a drive shaft supported for rotation by the housing;
a cam operatively connected to the drive shaft;
a piston accommodated in each cylinder bore, the piston operatively

connected to the cam so as to be reciprocated by converting the rotation of the drive shaft, the reciprocation of the piston varying a volume of the compression chamber; and

a rotary valve accommodated in the valve accommodating chamber, the
5 rotary valve integrally formed with the drive shaft so as to synchronously rotate with the drive shaft, the rotary valve including a suction guiding hole which interconnects the suction pressure region with at least one of the suction communicating passages, the suction guiding hole connecting each suction communicating passage by turns with the suction pressure region as the rotary
10 valve is rotated, the suction guiding hole communicating with a plurality of the compression chambers at least at early and last stages in a suction process;

wherein the suction guiding hole has a first end formed at a preceding side in a rotational direction of the rotary valve, the suction guiding hole also having a second end formed at a following side in the rotational direction of the
15 rotary valve, the suction guiding hole further having a middle between the first end and the second end, the suction guiding hole further having a predetermined area per unit length in the rotational direction, the predetermined area continuously increasing from the first end to the middle and continuously decreasing from the middle to the second end.

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10. The piston type compressor according to claim 9, wherein the rotary valve has a rotary axis for rotation, the suction guiding hole having a

predetermined length in a direction of the rotary axis, the predetermined length continuously increasing from the preceding side to the middle and continuously decreasing from the middle to the following side.

5 11. The piston type compressor according to claim 9, wherein the suction guiding hole has a substantially oval shape.

12. The piston type compressor according to claim 9, wherein the suction guiding hole has a substantially rhombic shape.

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13. The piston type compressor according to claim 9, wherein the suction guiding hole communicates with two of the compression chambers at least at the early and last stages.

15 14. The piston type compressor according to claim 9, wherein the suction pressure region includes an introducing chamber and a suction chamber.

15. The piston type compressor according to claim 9, wherein a single-head piston type compressor is adopted.

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16. The piston type compressor according to claim 9, wherein the cylinder block is made of metallic material of aluminum series, the rotary valve being

made of one of metallic material of aluminum series, metallic material of iron series and resin.